



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,424	07/29/2003	Jeffrey A. Read	ARL 01-37	5300
21364	7590	06/04/2008	EXAMINER	
U S ARMY RESEARCH LABORATORY ATTN AMSRL CS CC IP 2800 POWDER MILL RD ADELPHI, MD 207831197			RHEE, JANE J	
		ART UNIT		PAPER NUMBER
		1795		
		MAIL DATE	DELIVERY MODE	
		06/04/2008	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/628,424	READ, JEFFREY A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	JANE RHEE	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 May 2008.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 13-17 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 13-17 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Rejections Withdrawn***

1. The 35 U.S.C. 102(e) rejection of claims 13-17 anticipated by Inoue et al. has been withdrawn due to applicant's argument filed on 5/19/2008.

### ***New Rejection***

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 13-17 are rejected under 35 U.S.C. 102(e) as being anticipated by

Narang et al. (US6991876).

As to claims 13-17, Narang et al. discloses a lithium oxygen battery comprising an electrolyte solution, the battery comprising a lithium metal containing anode (col. 4 lines 7-20), a cathode comprising carbon (col. 4 lines 64-67), the electrolyte comprising a lithium salt LiPF<sub>6</sub> (col. 3 lines 12), and a non-aqueous solvent comprising dimethyl carbonate and ethylene carbonate (col. 3 line 13).

As to the group of solvents having an oxygen solubility of greater than 0.1632ccO<sub>2</sub>/cc solvent at STP, since Narang discloses DMC the same material desired by the applicant comprising an oxygen solubility of greater than 0.1632ccO<sub>2</sub>/cc solvent

at STP, it is inherent that Narang discloses a non-aqueous solvent having an oxygen solubility of greater than 0.1632ccO<sub>2</sub>/cc solvent at STP.

As to the solvents having an oxygen solubility of less than 1150cc O<sub>2</sub>/cc at STP, since Narang discloses ethylene carbonate, the same material desired by the applicant comprising the an oxygen solubility of less than 1150cc O<sub>2</sub>/cc at STP, it is inherent that Narang discloses a non aqueous solvent comprising an oxygen solubility of less than 1150cc O<sub>2</sub>/cc at STP.

As to wherein the oxygen solubility of the solvent combination is at least 0.1150cc/O<sub>2</sub>/cc at STP and wherein oxygen is reduced at a cathode surface of the metal oxygen battery to produce O<sup>^-2</sup> or O<sub>2</sub><sup>^-2</sup> ions and increase in the amount of dissolved oxygen in the electrolyte increases the specific capacity of the cathode, since Narang discloses the same materials for the aqueous solvent desired by the applicant, it is inherent that the oxygen solubility of the solvent combination is at least 0.1150cc/O<sub>2</sub>/cc at STP and wherein oxygen is reduced at a cathode surface of the metal oxygen battery to produce O<sup>^-2</sup> or O<sub>2</sub><sup>^-2</sup> ions and increase in the amount of dissolved oxygen in the electrolyte increases the specific capacity of the cathode.

***Response to Arguments***

3. Applicant's arguments with respect to claims 13-17 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE RHEE whose telephone number is (571)272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jane Rhee/  
Primary Examiner, Art Unit 1795